L 23561-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) GS/AT

ACC NR: AT6008840 SOURCE CODE: UR/0000/65/000/000/0027/0035

AUTHOR: Akshanov, B. S.; Volkolupov, Yu. Ya.; Sinel'nikov, K. D.

ORG: none

TITLE: Confinement of charged particles pulse-injected into a trap with stationary fields

SOURCE: AN UkrSSR. Magnitnyye lovushki (Magnetic traps). Kiev, Naukova dumka, 1965, 27-35

TOPIC TAGS: magnetic trap, electron gun, plasma injection, magnetic mirror, charged particle

ABSTRACT: Experimental injection of charged particles into magnetic traps is studied using high power electron guns in which the accelerating potential, amplitude and duration were regulated to produce square, half-sine, and sawtooth waves. The magnetic coils and field configuration (for injection through a cusp into a magnetic mirror with constricted far end) are shown in figure 1. Probing electron beams and luminescent screens were used to show that plasma confinement time is in the tens of microseconds and depends on such parameters as initial density, injection pulse time and amplitude. The luminescent screen surrounding the plasma gives evidence that the injected beam strikes the wall at critical energies. Plasma confinement time and the onset of a rapid breakup of the plasma are increasingly delayed as the initial pres-

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ACC NR: AT5008840

sure increases. The method employed can produce 10^{12} cm^{-3} plasma. The resulting plasma is very similar to one produced by continuous injection but it maintains high electron temperatures for a somewhat longer time. Orig. art. has: 6 figures.

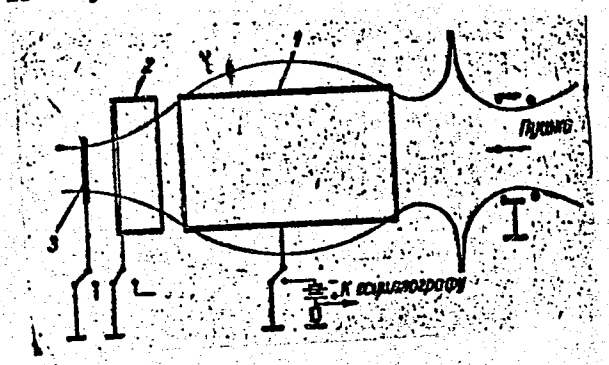

Figure 1.

SUB CODE: 20/ SUBM DATE: 20Oct65/ ORIG REF: 004/ OTH REF: 000

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L 23563-66 EWT(l)/ETC(f)/EPF(n)-2/EWG(m)/T IJP(c) GS/AT

ACC NR: AT6008841 SOURCE CODE: UR/0000/65/000/000/0035/0040

AUTHOR: Akshanov, B. S.; Volkolupov, Yu. Ya.; Sinel'nikov, K. D. 67

ORG: none B+1

TITLE: Investigation of charged particle energy 2/ in a magnetic trap 2/

SOURCE: AN UkrSSR. Magnitnyye lovushki (Magnetic traps). Kiev, Naukova dumka, 1965, 35-40

TOPIC TAGS: magnetic trap, plasma diagnostics, charged particle, plasma injection

ABSTRACT: Experimental investigation of the energy distribution of charged particles in a plasma formed by beam injection is described. The study is based on observation of the particles ejected from the magnetic trap and their energy determination and on the correlation with the high frequency oscillations induced by beam-plasma interaction. A brief description and results of the diagnostic methods (electrostatic analyzer, time of flight mass spectrometer, scintillation detectors) are given. The electrostatic analyzer (developed by the authors) can measure electron and ion energies and provides integrated results. The experiments were conducted with pulsed injection of particles. The lifetimes of resulting plasmas were measured as a function of injection energy. The measurement of electron energy provides their distribution up to 30 kev. The electron absorption method indicates that electrons with 100 kev energies

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ACC NR: AT6008841

are generated in the magnetic trap employed in the experiment. It is believed that the generation of such energetic electrons is intimately connected with the observed high frequency oscillations of the beam-plasma system. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 20Oct65/ ORIG REF: 002/ OTH REF: 002

Card 2/2 FV

L 18839-66 EWT(1) IJP(c) GS

ACC NR: AT5028590 SOURCE CODE: UR/0000/65/000/000/0403/0410

AUTHOR: Sinel'nikov, K. D. (Academician AN UkrSSR); Akshanov, B. S. 49 B+1

ORG: none

TITLE: Experimental investigation of charged particle motion in picket fence magnetic traps 21,44,55

SOURCE: Konferentsiya po fizike plazmy i problemam upravlyayemogo termoyadernogo sinteza, 4th, Kharkov, 1963. Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza (Physics of plasma and problems of controllable thermonuclear synthesis); doklady konferentsii, no. 4. Kiev, Naukova dumka, 1965, 403-410

TOPIC TAGS: magnetic trap, electron gun, particle trajectory, plasma injection, electron reflection

ABSTRACT: The main objective of the experiment was to study the trajectories of injected electrons with the help of luminescent screens inserted into the trap region. Experimental study of the electrons injected into a magnetic trap formed by two opposing fields (cusp geometry) has shown that a plasma of relatively long duration (0.1 sec) and of 10^{12} cm^{-3} density can be obtained. A series of photographs

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L 18839-66
ACC NR: AT5028590

of observed trajectories are shown including those of repeatedly reflected electrons. This technique led to the solution of several problems associated with the injection of electrons into magnetic traps. It was found that the electron gun position relative to the magnetic axis has a strong effect on the plane of reflection and region of trapping. The critical energy of the reflected particles was consequently plotted as a function of the radial position of the injector. The dependence of the adiabatic particles on the injection energy and their reflection and transmission for various radial positions of the injector were also studied. It was found that the resulting spiral trajectories must be controlled in their relation to the axis in order to obtain optimum trapping. Some experiments (not described in this work) with magnetic mirror traps were also performed. Orig. art. has: 12 figures.

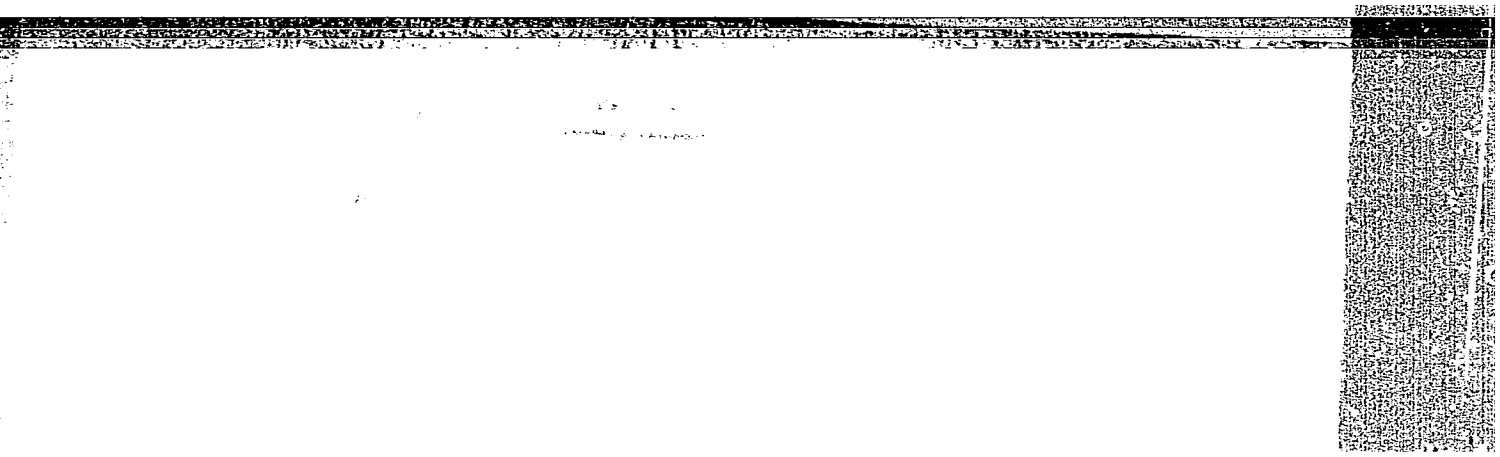
SUB CODE: 20/ SUBM DATE: 20May65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 vmb

AKSHENTSEVA, A. P.

" Investigation of the Kinematics of the Conversion of Austenite into Martensite." Min Heavy Machine Building USSR, Central Sci Res Inst of Technology and Machine Building (TsNIITMash), Moscow, 1953
(Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis', No.32, 6 Aug 55



APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100720013-7"

... into plastic leading to martensitic ... deformation tion. Austenite transforms into martensite on heating from −100 to +20° only when ... [illegible] ... sufficiently fast to prevent martensite formation. With the martensite range in the neg. temps., the intensity of its formation depends on the temp. of the isothermal hold and on the speed of cooling to the isothermal temp. For each quenching temp. there is an ...

USSR/Metals - Austenite transformation FD-3046

Card 1/2 Pub. 153 - 15/23

Author : Gulyayev, A. P.; Akshentseva, A. P.

Title : Influence of speed of cooling on kinetics of transformation of austenite to martensite

Periodical : Zhur. tekh. fiz., 25, February 1955, 299-312

Abstract : The authors state that study of the influence of cooling rate on transformation of austenite to martensite is important for the technology of steel tempering (knowing this influence one can direct and change the course of the martensite reaction during tempering) and also for the acquisition of new data on the nature of this important phase transformation. They describe experiments conducted mainly on steels of the type Kh12F1 (1.4%C, 11.1%Cr, 0.7%V), this type being chosen because one can obtain in it by chance alone in the tempering temperature austenite of various compositions which has various temperatures of the martensite interval. They conclude that increase in the cooling rate at all temperatures increases the total effect of transformation and in

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FD-3046

Abstract : the end increases the quantity of martensite and that the new facts obtained clarify the leading role of stress in the formation of nuclei of the martensite phase (ibid., 23, 4, 1953). Further, at high temperatures increase of the cooling rate and increase of stresses cause increase in the martensite phase, etc. Seven references.

Institution : -

Submitted : November 1, 1954

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 172 (USSR) SOV/137-59-1-1271

AUTHOR: Akshentseva, A. P.

TITLE: Microstructural Investigations of Phase Composition of Stainless Steels of the Type Kh23N23M3D3, Kh23N27M2T, and Kh23N27M3D3T (Mikrostrukturnyye issledovaniya fazovogo sostoyaniya nerzhaveyushchikh staley marok Kh23N23M3D3, Kh23N27M2T i Kh23N27M3D3T)

PERIODICAL: Sb. statey. Vses. n.-i. i konstrukt. in-t khim. mashinostr., 1957, Vol 23, pp 76-95

ABSTRACT: A metallographic investigation (employing the method of surface oxidation of polished microsections) was carried out together with corrosion and weldability testing of hot-rolled sheet steel of industrial smeltings of the types Kh23N23M3D3 (I), Kh23N27M2T (II), and Kh23N27M3D3T (III). After quenching in water from a temperature of 1100°C, the specimens were heated to 500-1100° for periods of 2.5 and 20 minutes and to 650-950° for periods of up to 50 hours. It was established that steels I and II possess an unstable austenitic structure; 2-5 minutes of soaking at 650-800° results in a segregation of Cr and Mo carbides along the grain boundaries, which

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Microstructural Investigations of Phase Composition of Stainless Steels (cont.)

facilitates intercrystalline corrosion, particularly in welded joints. Steel III does not exhibit any of these drawbacks. Heating of steels I and III for periods of time extending over 4-50 hours results in the precipitation of grains of an intermetallic substance (H_B 670-868) of the σ-phase type along the grain boundaries. Bibliography: 9 references.

T. F.

Card 2/2

SOV/81-59-16-57432

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 260 (USSR)

AUTHORS: Kazennov, Yu.I., Shvarts, G.L., Akshentseva, A.P., Kolosova, L.P., Kuznetsova, Yu. M.

TITLE: On the Application of Non-Stabilized Acid-Resistant Chromium-Nickel Steels Containing Copper

PERIODICAL: Sb. statey. Vses. n.-i. i konstrukt. in-t khim. mashinostr., 1958, Vol 25, pp 57-74

ABSTRACT: Experimental data have shown that: 1. The Kh23N23M3D3 steel with a content of C $>$ 0.06% acquires an inclination to intercrystallite corrosion (IC) after short-time heating in the range of 600 - 900°C. The longer is the heating, the broader the dangerous temperature range. 2. The time of the stable state during heating in the dangerous range of temperatures is the longer, the lower the C content in the steel. 3. The introduction into the steel of Mo in quantities exceeding even 25 times its amount in relation to C shows no stabilizing effect. The Kh18N28M3D3 steel acquires also an inclination to IC after short-time heating in the dangerous temperature range in spite of the fact that the C content in it is only 0.03% in all. Apparently the appearance of an inclination to IC in the Kh23N23M3D3

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SOV/129-59-1-11/17

AUTHOR: Akshentseva, A.P., Candidate of Technical Sciences

TITLE: Tendency of Stainless Steels to Develop Intercrystallite Corrosion After Heat Treatment (Sklonnost' nerzhaveyushchikh staley k mezhkristallitnoy korrozii posle termicheskoy obrabotki)

PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov, 1959, Nr 1, pp 47 - 52 (USSR)

ABSTRACT: In earlier work (Refs 1, 2) carried out in the NIIKhIMMASh Institute, investigations were described of the structure, the weldability, the properties of shaping by applying pressure and the tendency to develop intercrystallite corrosion for the steels EI533, EI628 and EI629 with compositions as given in a table on p 48. The work described in this paper was devoted to microstructural investigation of the dependence of the phase state of these steels on differing variants of heat treatment and a relation was established between the corrosion stability and the structure. The investigations were carried out on steels taken from 7 normal heats (hot-rolled sheets, 2.5 - 12 mm thick) and 3 experimental heats of the steel EI 629 produced in a furnace of the same works (5 mm thick sheets). All the investigations were carried out after quenching of

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the steel from 1 100 °C in water. The influence was investigated of holding for 2.5 and 20 min at 500 - 1 100 °C on the structure and corrosion stability of steels. Furthermore, the formation was investigated of the brittle structural component of the σ-phase type in the steels EI533 and EI629 at 650 - 950 °C. For revealing the tendency of the steel EI628 to develop intercrystallite corrosion, the specimens were submerged in a solution containing 10% HNO_3 and 2% NaF at a temperature of 80 °C in three cycles of two hours each. The steels EI629 and EI533 were tested in a boiling solution of copper sulphate with zinc powder. The cuts were etched in a boiling reagent containing 50 ml of HCl, 50 ml H_2O and 5 ml HNO_3.

The structural components forming during heat treatment were revealed by means of excitation etching, as described by Reshetkina and Lehedyanskaya (Ref 5) and Levin (Ref 6). As a result of the etching, the austenite assumed a straw-yellow colour, complex binary Cr-Mo carbides assumed a brownish colour, whilst the σ-phase remained bright.

Tendency of Stainless Steels to Develop Intercrystallite Corrosion After Heat Treatment

The σ-phase was also detected by means of an electrolytic film etching in a reagent containing 2 g $KMnO_4$, 2 g KOH and 50 ml H_2O at a current density of 1.5 A/cm^2 with an etching duration of 3 - 5 sec, whereby the specimen served as a cathode. The results are described of investigation of the influence of short-duration heating at temperatures between 500 and 1 100 °C on the microstructure and the corrosion stability as well as of the influence of long-duration heating at 650 - 950 °C on the phase composition. The used method of surface excitation reveals satisfactorily the structure of stainless austenitic steels containing Cr, Ni, Mo, Ti and Cu. It was found that the industrially produced steels EI 533 and EI628 possess an unstable austenite structure; short-duration heating (2 - 5 min) in the range 600 - 850 °C brings about evolution at the grain boundaries of finely dispersed binary Cr and Mo carbides which give rise to intercrystallite corrosion in aggressive media. In the structure of the steel EI629 a stable austenite is present which is not prone to grain growth

and to evolution of a carbide phase along the grain boundaries in the case of e x p o s u r e for a short duration (10 min) to a welding arc; therefore, this steel is stable to intercrystallite corrosion in an aggressive media. Holding of the steel EI533 and EI629 at 800 - 950 °C for durations of 50-10 hours gives rise to evolution of intermetallic chromium-rich compounds of the σ-phase type inside and on the boundaries of the austenite grains. There are 4 figures, 1 table and 10 references, 8 of which are Soviet and 2 English.

ASSOCIATION: NIIKhIMMASh

Card 4/4

VOLIKOVA, I.G., inzh.; KAZENNOV, Yu.I., kand. tekhn. nauk; AKSHENTSEVA, A.P., kand. tekhn. nauk

Some data on the weldability and resistance of Kh25T and Kh28NA steels to corrosion. Khim. mash. 3 no.3:33-39 My-Je '59. (MIRA 12:12)

(Steel--Testing)

AKSHENTSEVA, A.P., kand.tekhn.nauk

Microstructural study of the phase constitution of the Kh23N23M3D3, Kh23N27M2T, and Kh23N27M3D3T stainless steel. Sbor.st.NIIKHIMMASH no.23:76-95 Mr '59. (MIRA 12:5)
(Steel, Stainless--Metallography*

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AKSHENTSEVA, A.P

PHASE I BOOK EXPLOITATION · SOV/5488

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya.

Materialy v khimicheskom mashinostroyenii (Materials in Chemical Machine Building) Moscow, Informatsionno-izdatel'skiy otdel, 1960. 143 p. (Series: Its: Trudy, vyp. 34) 3,000 copies printed.

Sponsoring Agency: Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu and Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya NIIKhIMASh.

Ed. (Title page): V. K. Fedorov, Candidate of Technical Sciences; Editorial Council: Chairman: V. B. Nikolayev; Deputy Chairman: Yu. M. Vinogradov, Candidate of Technical Sciences; B. N. Borisoglebskiy, A. N. Goncharov, Yu. G. Popandopulo, I. N. Tukalov, Candidate of Technical Sciences, and G. M. Yusova, Candidate of Technical Sciences; Ed.: V. I. Glukhov; Tech. Ed.: P. A. Vahitsev.

PURPOSE : This collection of articles is intended for technical personnel in chemical machine building and other branches of the machine and instrument industry.

COVERAGE: The collection deals with the results of investigations on the mechanical, corrosive, and engineering qualities of certain alloys. Also discussed are heat-treatment regimes, the phase composition of stainless steels, methods of checking products, and new designs of apparatus used in checking. References accompany each article.

TABLE OF CONTENTS:

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85196

S/129/60/000/011/002/016
E073/E535

18.7500 1555

AUTHOR: Akshentseva, A. P., Candidate of Technical Sciences

TITLE: Structural Changes and the Corrosion Stability of the Steel X17H2 (Kh17N2)

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No.11, pp.7-12 + 2 plates

TEXT: One of the important features of this stainless, acid resistant and scale resistant ferrite-martensite steel is that it has a satisfactory weldability. However, in the transient zone the metal has a low corrosion resistance and a low impact strength. In NIIKhIMMASh experiments were carried out (with the participation of A. N. Krutikov, I. G. Volikova, A. M. Shabanova and A. I. Zharov) on the machineability, weldability and corrosion resistance of 5 mm sheet from commercial heats (0.1% C, 17.68% Cr, 1.96% Ni, 0.59% Mn and 0.50% Si); σ_b = 123 kg/mm^2, σ_s = 108 kg/cm^2, δ = 13.5%. In the initial state the microstructure consisted of stretched grains of chromium containing ferrite and alternating bands of sorbite. For studying the influence of the thermal cycle on the structure, impact strength and the corrosion stability, the following normalization temperatures were applied with holding times of 1, 2.5 and 5 min at

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S/129/60/000/011/002/016
E073/E535

Structural Changes and the Corrosion Stability of the Steel X17H2 (Kh17N2)

each temperature: 800, 900, 1000, 1100, 1200 and 1300°C. To elucidate the tendency of the steel to develop intercrystallite corrosion, boiling in an aqueous solution of blue vitriol and sulphuric acid for 144 hours was applied. The influence was also studied of a second re-heat in the temperature range 300 to 900°C for 30 min on the microhardness of the structural components, the impact strength and the corrosion stability. The microstructure of the steel after various types of heat treatment was investigated on notch impact specimens by means of an optical and by means of an electron microscope using varnish replicas which were shaded by means of chromium. The polished specimens were etched by means of a Krupp reagent. For analysis of the structural state of the steel, the microhardness was measured by means of a ПМТ-3 (PMT-3) tester with a load of 20 g. The structure was additionally etched with a hot reagent containing 10 g $K_3Fe(CN)_6$ + 10 g KOH and 100 ml H_2O. This reagent gives the ferrite a yellow tint and the carbides a brown tint, whilst the martensite remains bright after etching. Data are given and discussed on the structure of the steel after normalization annealing; the hardness values as a function of the temperature and duration of

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S/129/60/000/011/002/016
E073/E535

Structural Changes and the Corrosion Stability of the Steel X17H2 (Khl7N2)

the normalization are given in a table, p.9. The results on the influence of the tempering at 300 to 900°C on the structure, impact strength and corrosion stability are discussed as well as the nature of the corrosion failure of welded specimens after testing in a standard solution of blue vitriol. The following conclusions are arrived at:

1) Heating of the investigated steel up to 1000-1300°C for durations of 1 to 5 min and subsequent cooling in air brings about the formation of a martensite structure (microhardness 545-649 kg/mm^2) which reduces the impact strength of the metal to 0.36-0.60 kgm/cm^2.

2) As a result of tempering in the temperature range 300 to 600°C, disperse chromium carbides are rejected from the martensite and the basic martensite mass becomes poor in chromium. The structure of the tempered martensite has a low corrosion stability.

3) For the temperature range 400 to 650°C, the corrosion of the investigated steel is structurally selective and intercrystalline: the sections of tempered martensite are subjected to the effect of the corrosion medium, the grains of the chromium ferrite will not corrode.

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Structural Changes and the Corrosion Stability of the Steel Kh17N2 (Kh17N2)

4) Tempering of the steel Kh17N2 at 680-700°C for 1 hour brings about complete decomposition of the martensite into a ferrite-carbide mixture, resulting in an elimination of the internal stresses and also in the formation of stable chromium carbides at the grain boundaries.
5) Heating of hardening Kh17N2 steel at 750, 800, 850, 900-1300°C for 30 min causes intercrystallite corrosion in the case of testing of specimens in an aqueous solution of blue vitriol and sulphuric acid. Heating above 800°C and subsequent fast cooling will make this steel prone to intercrystallite corrosion.
6) The weld seams of the steel Kh17N2, produced by means of austenitic electrodes deposited by multi-layer electric arc welding or welding with preliminary heating of the thermally influenced zone, are prone to structurally selective and intercrystallite corrosion. To prevent corrosion the welded components should be annealed at 680 to 700°C. There are 5 figures, 1 table and 2 references: 1 Soviet and 1 English.
ASSOCIATION: NIIKhIMMASh

Card 4/4

KAZENNOV, Yu.I., kand.tekhn.nauk; VOLIKOVA, I.G., inzh.; AKSHENTSEVA, A.P., kand.tekhn.nauk

Properties of welded joints in high-chromium steels alloyed with nitrogen and nickel. Sbor.st. NIIKHIMMASH no.33:36-49 '60. (MIRA 15:5)

(Steel--Welding)

KAZENNOV, Yu.I., kand.tekhn.nauk; VOLIKOVA, I.G., inzh.; AKSHENTSEVA, A.P., kand.tekhn.nauk

Weldability and corrosion resistance of Kh25T high-chromium steel. Sbor.st. NIIKHIMMASH no.33:50-71 '60. (MIRA 15:5)
(Steel--Corrosion)

S/184/61/000/006/003/005
D041/D113

AUTHOR: Krutikov, A.N., Candidate of Technical Sciences, Akshentseva, A.P., Candidate of Technical Sciences, Volikova, I.G., Engineer

TITLE: Some data on the weldability and the corrosion resistance of Kh17T and Kh17N2 steels

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 6, 1961, 33-38

TEXT: The results are given of experimental investigations carried out in order to obtain data on the weldability and corrosion resistance of Х17Н2 (Kh17N2) and Х17Т (Kh17T) steels. The impact toughness of both steels was determined within a temperature range of -40 to +100°C. The threshold of cold shortness of Kh17T steel lies near 0°C; Kh17N2 steel shows no tendency to cold shortness within the above-mentioned temperature range. Some time ago, high-chromium steels with a ferrite structure were manufactured with a low impact toughness; now, the TsNIIChM Institut (Institute) and the "Krasnyy Oktyabr'" Zavod (Plant) manufacture Kh17T steel with a threshold of cold shortness near 0°C and lower. The impact toughness was also investigated during short-term heating of the steel specimens to 300-900°C in a salt vat and subsequent cooling in the air; a sharp decrease in the impact toughness was observed; the longer the heating time, the lower is the normalizing temperature at which this decrease occurs. Annealing at 300-700°C or repeated

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heating within the 700-900°C range increases the impact toughness of Kh17N2 steel; no considerable improvements were observed in the case of Kh17T steel. The impact toughness of separate parts of the heat-affected zone of welded joints was also investigated. Part of the specimens were examined immediately after welding, part of them were annealed at 750°C for 0.5 hours. Kh17T steel has an impact toughness of approximately 1 kg/cm^2 in the weakness zone and heat treatment does not increase this toughness. Multilayer-welded Kh17N2 steel has a high impact toughness in the weakness zone; heat treatment slightly increases the impact toughness of the heat-affected zone. The ЦЛ11 (TsL11) electrode is recommended since it ensures the highest corrosion resistance in the weld metal. In order to obtain corrosion resistance data on the above-mentioned steels, laboratory investigations of welded joints were carried out using the following aggressive media: HNO_3, HCOOH, $C_2H_2O_4$, H_3PO_4 and CH_3COOH. At all the investigated temperatures and concentrations of CH_3COOH, the Kh17T and Kh17N2 steels are corrosion resistant, the corrosion resistance of the welded joints being the same as that of the base metal. In HCOOH, the steels have either a reduced resistance or low resistance. The corrosion resistance of the heat-affected zone of the welded joints is the same as that of the base metal. Welds produced by the ВИ12-6 (VI12-6) and the ЭНТУ-3 (ENTU-3) electrodes corrode more intensively than the base metal; welds containing niobium and welded with the TsL11 electrodes corrode less. In boiling $C_2H_2O_4$ solutions,

AKSHENTSEVA, A.P.

S/137/63/000/003/005/016
A006/A101

AUTHORS: Krutikov, A. N., Akshentseva, A. P., Volikova, I. G., Zharov, A. I.

TITLE: Properties of grade X17T (Kh17T) ferrite high-chromium steel weld joints

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1963, 9, abstract 3E49 ("Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr.", 1962, no.38, 52 - 63)

TEXT: Considering low a_k (1 kgm/cm^2) in the heat-affected zone, ferrite Kh17T steel is recommended to be used for manufacturing equipment that is not subjected to dynamic loads. Heat treatment does not raise a_k of this steel. The heat affected zone of Kh17T steel welds is not prone to intercrystalline corrosion. The basic electrode for welding Kh17T steel is the ЦЛ11/ св-1Х18Н9Б (TsL11/cv-1Kh18N9B) electrode, securing high corrosion resistance of the weld metal and mechanical properties equalling those of the base metal.

[Abstracter's note: Complete translation] V. Fomenko

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S/137/63/000/003/013/016
A006/A101

AUTHORS: Akshentseva, A. P., Krutikov, A. N.

TITLE: The effect of heat treatment upon the ntructure and corrosion resistance of Kh17N2 (Kh17N2) and Kh17T (Kh17T) steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1963, 68, abstract 3I368 ("Tr. Vses. n.-i. konstrukt. in-t khim. mashinostr.", 1962, no. 40, 101 - 112)

TEXT: The composition (in %) and the mechanical properties of the investigated steel grades are given: Kh17T - C 0.07, Mn 0.60, Si 0.51, Cr 17.78, Ni 0.42, Ti 0.71, σ_b 52 kg/mm^2, σ_s 40 kg/mm^2, δ 25%; Kh17N2 - C 0.10, Mn 0.59, Si 0.50, Cr 17.68, Ni 1.96, σ_b 123 kg/mm^2, σ_s 108 kg/mm^2, δ 13.5%. Kh17N2 steel, subjected to quenching and low tempering at 275 - 300°C does not reveal intercrystalline corrosion in a boiling sulfuric acid solution of blue vitriol. Welded joints of this steel are prone, during multi-pass welding, to structural-selective and intercrystalline corrosion. Heat treatment of welded joints (tempering at 680 - 700°C) increases corrosion resistance in the weld-adjacent zone,

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A006/A101

and does not cause intercrystalline corrosion in the weld metal produced with a ЦЛ-11 (TsL-11) electrode; the ductility of the weld joint is increased. Kh17T steel and its welded joints do not show intercrystalline corrosion. Industrial tests were carried out in HNO_3, $C_2H_2O_4$, HCOOH, H_3PO_4, CH_3COOH of various concentrations. In Kh17T steel during heating from 1,000 to 1,300°C strong grain growth (up to point 1) is observed; as a result a_k drops from 9 - 11 to 0.06 kgm/cm^2. A decrease in a_k caused by high-temperature heating is irreversible; subsequent heating does not improve the steel properties.

L. Koblikova

[Abstracter's note: Complete translation]

Card 2/2

L 10813-63 EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD 57 13

ACCESSION NR: AP3003442 S/0129/63/000/007/0005/0009

AUTHOR: Akshentseva, A. P.; Istrina, Z. F.; Khimushin, F. F.; Frolikova, Ye. M.

TITLE: Phase transformations and corrosion resistance of OKh21N6M2T steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1963, 5-9

TOPIC TAGS: low-nickel stainless steels, ferritic-austenitic stainless steels, structural changes, corrosion resistance, integranular corrosion, heat treatment, Sigma phase, corrosion rates, nitric acid, phosphoric acid

ABSTRACT: An investigation was made of the phase composition, weldability, and corrosion resistance of OKh21N6M2T steel (0.07% C; 21.0% Cr; 5.66% Ni; 2.3% Mo; 0.47% Ti). In as-delivered condition (15-min annealing at 1000C followed by water quenching), this steel has a ferritic-austenitic structure, containing up to 75% δ-ferrite. This structure, however, is not stable; at 500—1000C the steel undergoes complex phase transformations. Tempering at

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500—550C for 2 hr causes dispersion hardening of the ferrite and precipitation of chromium carbides along the grain boundaries; 2-hr tempering at 700—950C brings about transformation of the ferrite into secondary austenite, with crystals of the latter forming inside the ferrite grains. Longer holding at 700—950C promotes intensive growth of the secondary austenite crystals, which finally penetrate all the ferrite grains. At the same time, diffusion growth of the primary austenite grains takes place; cooling to room temperature brings about partial martensitic transformation within these grains. With longer holding (50 and 100 hr) at 650—850C, the σ-phase precipitates within the ferrite grains, and the notch toughness of the steel drops from initial 6 to 0.5 kg-m/cm². Annealing at 750C reduces the content of δ-ferrite to 45—55%. The structure with a ratio of δ-ferrite to secondary austenite of approximately 1:1 appears to be the most stable. When this steel is welded, regardless of the type of welding or the kind of electrode used, recrystallization of the base metal occurs in the weld-adjacent zone, with formation of large grains of δ-ferrite, along whose boundaries small crystals of secondary austenite form with cooling. The steel with a Ti/C ratio equal to or exceeding 5, after annealing at 1000C, as well as after sensitizing annealing at 550—650C for 2 hr, is not susceptible to intergranular corrosion in boiling 50%

L 10813-63

ACCESSION NR: AP3003442

and 65% nitric acid or in boiling 50% phosphoric acid. The corrosion rate in phosphoric acid varied from 0.012 to 0.472 g/m²-hr (except for 2.11 g/m²-hr of specimens sensitized at 650C). Corrosion rates in 50% nitric acid after sensitizing at 500—700C were high (1.45—50.11 g/m²-hr). Stabilizing annealing at 700—1000C lowered corrosion rates to 0.192—0.583 g/m²-hr. Annealing the steel at temperatures above 1100C increases the ferrite content and lowers corrosion resistance, but tempering at 700C or above restores resistance to intergranular corrosion. In some media this steel has the same corrosion resistance as Kh18N12M2T Cr-Ni-Mo steel and is therefore recommended as a substitute for it. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: NIIKhIMMASh

SUBMITTED: 00 DATE ACQ: 02Aug63 ENCL: 00

SUB CODE: 00 NO REF SOV: 002 OTHER: 001

lm/ul
Card 3/3

L 15500-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pad JD
ACCESSION NR: AR3001633 S/0137/63/000/004/E011/E011

SOURCE: RZh. Metallurgiya, Abs. 4E56

AUTHOR: Kazennov, Yu. I.; Volikova, I. G.; Akshentseva, A. P.

TITLE: Properties of the welded joints of high-chromium steel alloyed with nitrogen and nickel

CITED SOURCE: Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., no. 33, 1960, 36-49

TOPIC TAGS: welded joint, high-chromium steel, Kh28NA, C, Cr, Ni, Mn, N, Si, heat treatment, weldability

TRANSLATION: The weldability and corrosion resistance of several commercial heats of thin sheet steel Kh28NA (EI-657) were studied at NIIKhIMMASh [Nauchno-Issledovatel'skiy Institute Khimicheskogo Mashinostroyeniya -- Scientific Research Institute of Chemical Machine Building]. Basic research was conducted on heat 22993 of this steel with 3.0-mm thickness and the following chemical composition: 0.06% C, 26.2% Cr, 1.36% Ni, 0.74% Mn, 0.24% N, and 0.5% Si.

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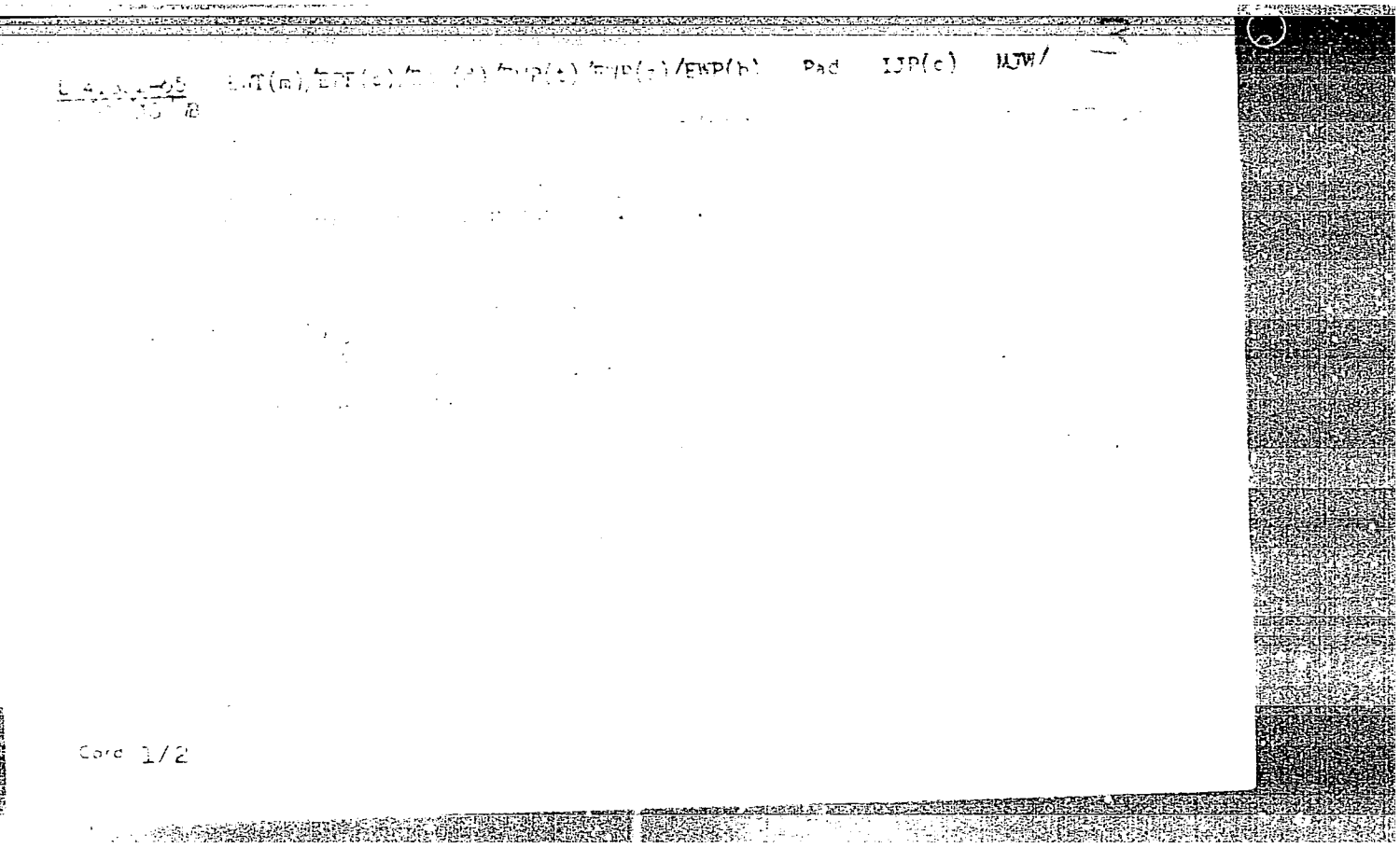
L 15500-63
ACCESSION NR: AR3001633

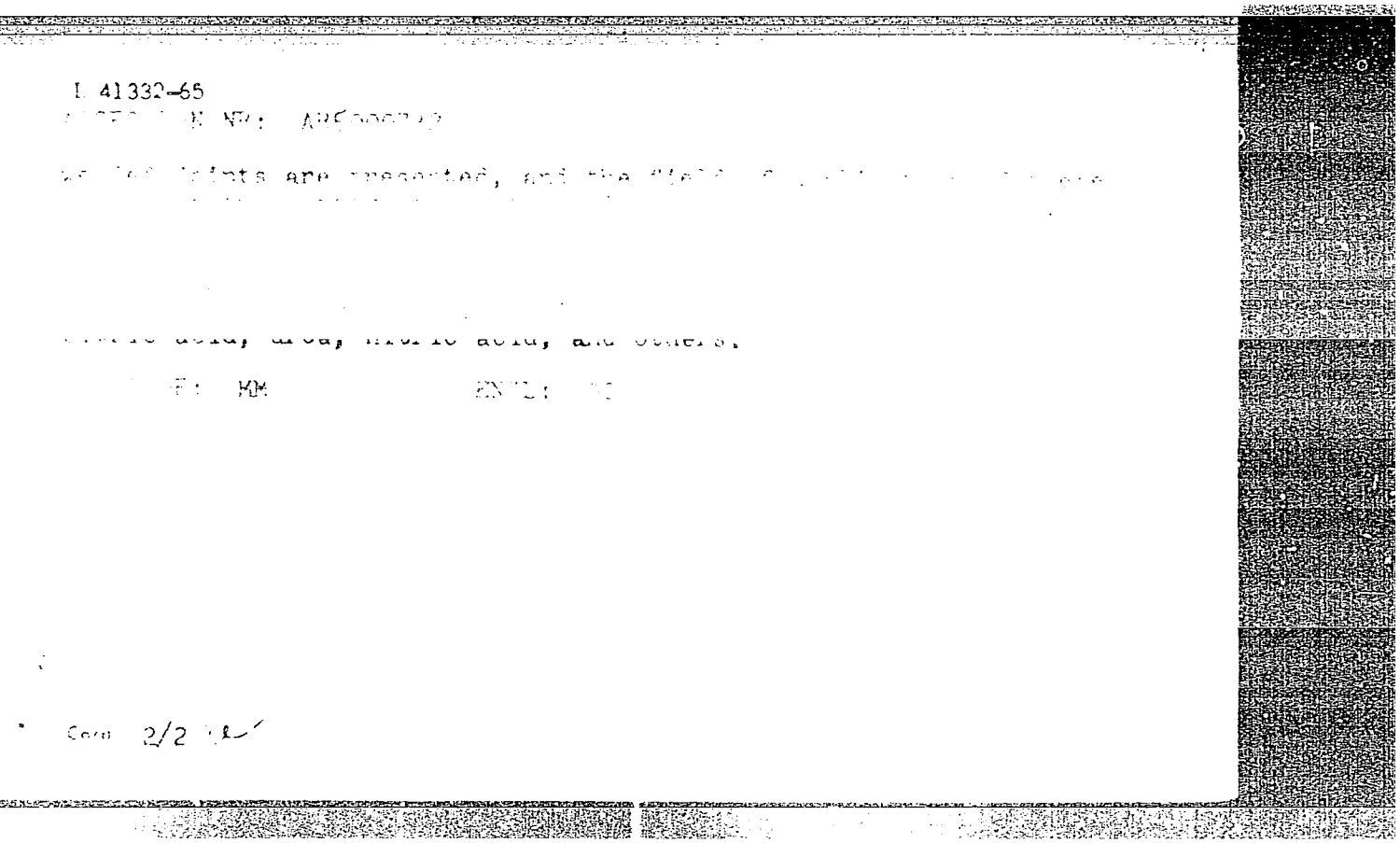
0

During short-time heating and welding, the alphagamma transformation takes place, starting at approximately 950°C. The higher the temperature of heating, the more complete is the transformation. Practically no reverse gamma-alpha transformation occurs at a sufficiently high rate of cooling, for example, during welding. However, due to significant variation of carbon solubility in ferrite and austenite, formation of carbides in the cooling process occurs at the gamma- and alpha-phase interfaces. Alpha-gamma transformations are reversible. The gamma-alpha transformation is achieved by short- or long-time annealing at 800-1,000°C. Harmful effect of high-temperature welding on steel Kh28NA can be eliminated completely by an annealing heat treatment. Steel Kh28NA can be classified with those steels which can be satisfactorily welded and which require heat treatment after welding. V. Fomenko

DATE ACQ: 20 May 63 SUB CODE: ML, EL ENCL: 00

Card 2/2





I 41332-65

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AKSHENTSEVA, A.P.; ISTRINA, Z.F.; KHIMUSHIN, F.F.; FROLIKOVA, Ye.M.

Phase transformations and the corrosion resistance of OKh21N6M2T steel. Metalloved. i term. obr. met. no.7:5-9 Jl '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya.
(Steel alloys—Metallography)
(Phase rule and equilibrium)

32-38

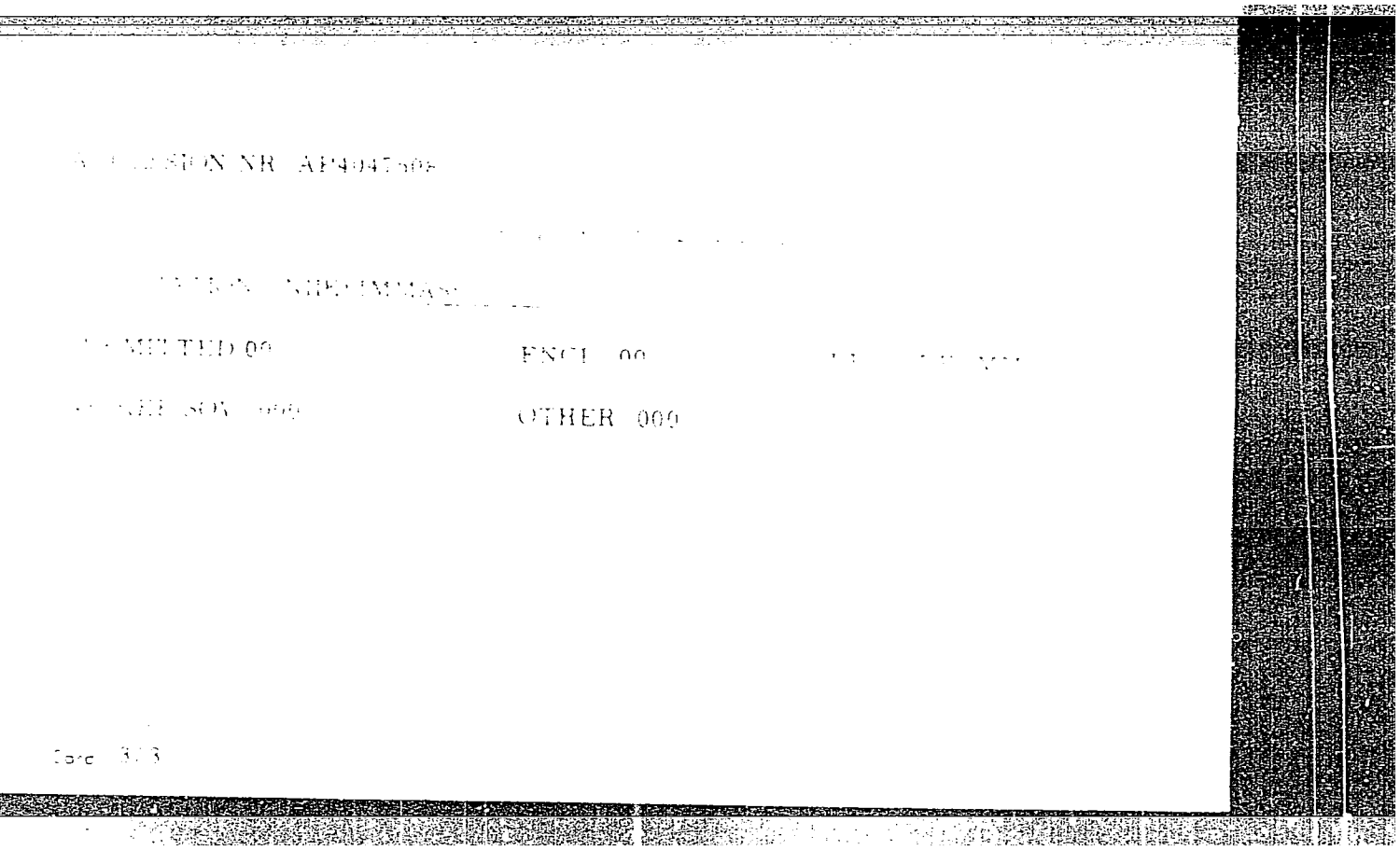
TOPIC TAGS aniline dye, maleic anhydride, selective corrosion, tail gas recov-

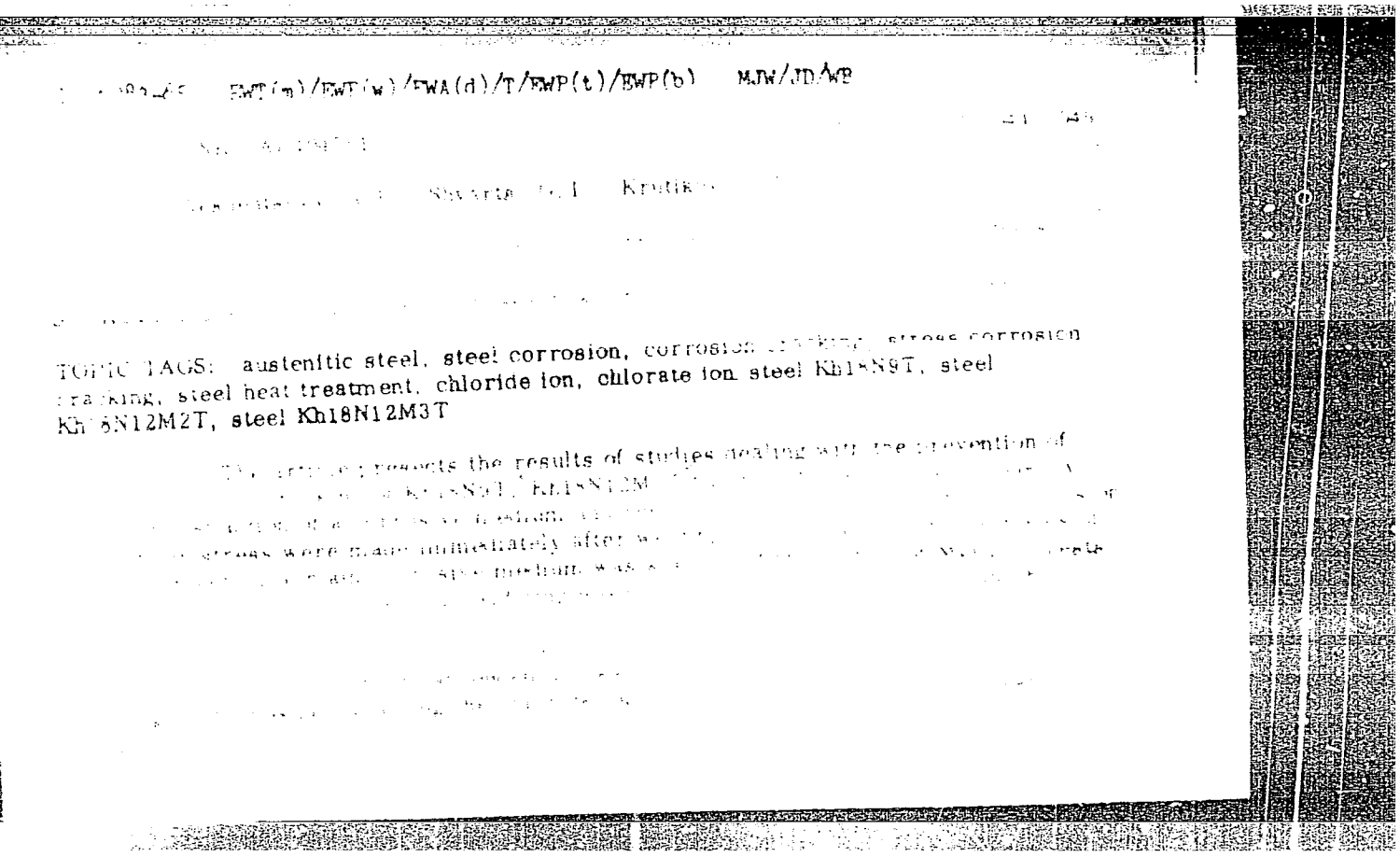
stainless steel, phthalic anhydride

Card 3

ACCESSION NR: AP4047508

0.04 C; 0.53 Mn; 0.45 Si; 23.01 Cr; 26.15 Ni; 3 Mo; 0.50 Ti;





EWT(m)/EWT(w)/EWA(d)/T/EWP(t)/EWP(b) MJW/JD/WB

TOPIC TAGS: austenitic steel, steel corrosion, corrosion [illegible] stress corrosion [illegible] steel heat treatment, chloride ion, chlorate ion steel Kh18N9T, steel Kh18N12M2T, steel Kh18N12M3T

[illegible] reports the results of studies dealing with the prevention of [illegible] Kh18N9T, Kh18N12M [illegible] stresses were made immediately after [illegible] steel medium was [illegible]

L 26083-65

ACCESSION NR: AP4047510

[illegible] concentrated sodium hydroxide solutions at 200C Stabilizing annealing at 900-920C [illegible] followed by cooling in air was found to prevent the cracking [illegible] solution and the concentrated NaOH solution at [illegible] Orig art has: 3 figures and 1 table.

ASSOCIATION: NIIKhIMMASh

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

L 36379-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI IJP(c) JD/HM/WB

ACC NR: AR6005807 SOURCE CODE: UR/0137/65/000/010/E012/E012

61

B

AUTHOR: Akshentseva, A. P.; Kolosova, L. P.; Shumratova, G. N.

TITLE: Structure and mechanical properties of argon-arc weld joints of technically pure VT1-1 titanium and OT4 alloy

SOURCE: Ref. zh. Metallurgiya, Abs. 10E79

REF SOURCE: Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., vyp. 47, 1964, 50-60

TOPIC TAGS: titanium, argon, arc welding, weld joint/VT1-1 titanium, OT4 alloy

ABSTRACT:
The effect of heat treating of Ti VT1-1 and OT4 alloys on structural changes, surface oxidation, and corrosion at temperatures ranging from 650—1050C has been investigated. V. Fomenko. [Translation of abstract.] [NT]

SUB CODE: 11/ SUBM DATE: none

Card 1/1 UDC: 621.791.052:669.295

L 04663-67 EWT(m)/T/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6007116 SOURCE CODE: UR/0129/66/000/002/0051/0055

AUTHORS: Akshentseva, A. P.; Shumratova, G. N.

ORG: none

TITLE: Effect of thermal treatment on the structure and properties of titanium VT1 and alloy OT4

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 2, 1966, 51-55

TOPIC TAGS: titanium alloy, titanium aluminum containing alloy, titanium, alloy, manganese containing alloy / VT1 titanium, OT4 alloy

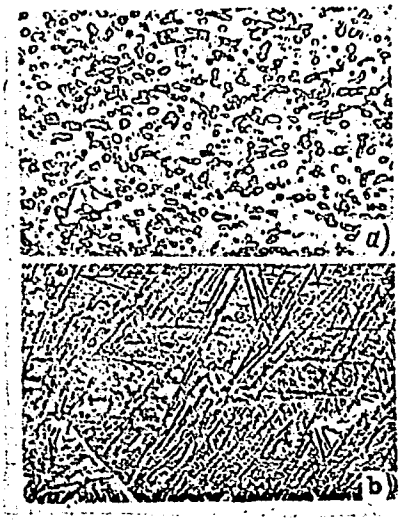
ABSTRACT: The effect of thermal treatment on the structure, hardness, microhardness, and corrosion stability of titanium VT1 and of alloy OT4 was studied. The specimens in the form of sheets 15 x 15 x 1.5 - 5 mm were annealed at various temperatures from 650--1050C. The corrosion stability of the annealed specimens was determined in 3% sulfuric acid solution at 80 and 65C, and in 1% hydrochloric acid solution containing 10% sodium sulfide and 3% calcium chloride at 70C. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that when the specimens were heated to temperatures in excess of the allotropic transition 950--1050C, they became covered with a hard white oxide. The depth of oxygen penetration into the metal depends on the temperature and aging time.

Card 1/2 UDC: 669.295:620.17:621.785

L 04663-67

ACC NR: AP6007116

Fig. 1. Microstructure of alloy OT4, sheet 2.5 mm thick; a - initial state-- x 500; b - exposed to 1050C for 10 min, quenched in water— x 300.



Orig. art. has: 3 tables and 3 graphs.

SUB CODE: 11/ 13/ SUBM DATE: none

kh

Card 2/2

AKSHENTSEVA, A. TS.

Defended his Dissertation for Candidate of Technical Sciences in the Central Scientific Institute for Heavy Machine Construction, Moscow, 1953

Dissertation: Investigation of the Kinetics of the Transformation of Austenite into Martensite"

SO: Referativnyy Zhurnal Khimiya, No. 1, Oct. 1953 (W/29955, 26 Apr 54)

5 (4)

AUTHORS: Topchiyeva, K. V., Stepanova, G. N., Akshinskaya, N. V.

SOV/55-58-6-20/31

TITLE: Vapor Phase Etherification of Some Fatty Acids and Aromatic Acids on Oxide Contacts (Parofaznaya eterifikatsiya nekotorykh zhirnykh i aromaticheskikh kislot na okisnykh kontaktakh)

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 157-163 (USSR)

ABSTRACT: In earlier papers the authors had succeeded (Refs 1-6, 9, 11) in finding but some interesting facts concerning the nature of the active centers of the alumosilicate catalysts used. It was found that these catalysts have two kinds of active centers: acid and oxide centers. The former are catalysts for the polymerization, alkylation, redistribution of hydrogen etc, and the latter for the dehydration of alcohols and the splitting of esters. For the reactions of the second type the following scheme was set up (Topchiyeva and Yun-Pin Refs 7, 8, 10, 12-15): $C_2H_5OH + OH - Al < \overset{K_1}{\rightleftharpoons} >$

Card 1/4

$$\xrightleftharpoons{K_1} >Al - OC_2H_5 \xrightleftharpoons{K_2} C_2H_5OC_2H_5 + >Al - OH$$
$$\downarrow K_3$$
$$C_2H_4 + >Al - OH$$

The present investigation is a continuation of this work. It clears up the general rules of heterogeneous catalytic reactions of the etherification of the acids mentioned in the title by means of simple ethers and alcohols. The following systems were investigated: 1) Formic acid - diethyl ether. 2) n-fatty acid - diethyl ether, 3) acetic acid - diethyl and di-n-butyl ether, 4) the anhydride of cis-Δ^4-tetrahydrophthalic acid - methyl alcohol, 5) the anhydride of 3,6-endomethylene-tetrahydrophthalic acid - methyl alcohol. Industrial aluminum oxide and synthetic alumosilicate were used as catalysts. The constants of initial materials are given in a table. Investigations were carried out on a circulation device. For the dissolution of the substances of systems 4 and 5 in methyl alcohol it was necessary to add some drops of sulphuric acid. The analysis of the catalyzed products

was carried out according to the oxidation method (Ref 16) and by basic saponification (the latter for the determination of formic- and n-fatty acid). The condensate obtained from the aromatic acids was analyzed according to the method of reference 18. The dependence of the yield of esters on the temperature on Al_2O_3 is shown by figures 2 and 3. This yield passes through a maximum with an increase of temperature. Also the ester yield passes through a maximum with an increase of contact time. These investigations were carried out on various catalysts (pure Al_2O_3 and alumosilicate). The kinetic curves are analogous for fatty acids and the acids of the aromatic series, which indicates the equality of the etherification mechanism for the two acids on the catalysts used. The alumosilicate catalysts were found to be much more active than pure Al_2O_3. By the method of partly poisoning the catalysts (Fig 7) it was possible to prove the participation of two active centers in the etherification reaction. There are 7 figures, 1 table, and 19 references, 18 of which are Soviet.

Vapor Phase Etherification of Some Fatty Acids and Aromatic Acids on Oxide Contacts SOV/55-58-6-20/31

ASSOCIATION: Kafedra fizicheskoy khimii (Chair for Physical Chemistry)

SUBMITTED: March 11, 1958

Card 4/4

PANCHENKOV, G.M.; KUZNETSOVA, Ye.M.; AKSHINSKAYA, N.V.

Polarographic determination of alkali metals in aqueous and alcohol-water solutions without the supporting electrolyte. Zhur.anal. khim. 15 no.4:424-426 Jl-Ag '60. (MIRA 13:9)

1. M.V.Lomonosov Moscow State University.
(Alkali metals)

AKSHINSKAYA, N.V.; KISELEV, A.V.; NIKITIN, Yu.S.; PETROVA, R.S.; CHUYKINA, V.K.; SHCHERBAKOVA, K.D.

Geometric and chemical modification of silica gel for the adsorption separation of hydrocarbons by gas chromatography. Zhur.fiz.khim. 36 no.5:1121-1123 My '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Silica) (Hydrocarbons) (Gas chromatography)

AKSHINSKAYA, N.V.; BEZNOGOVA, V.Ye.; KISELEV, A.V.; NIKITIN, Yu.S.

Geometric modification of the skeleton of xerogels. Part 1.
Zhur.fiz.khim. 36 no.10:2277-2280 O '62. (MIRA 17:4)

1. Laboratoriya adsorbtsii i gazovoy khromatografii khimicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.

AKSHINSKAYA, N.V.; KISELEV, A.V.; NIKITIN, Yu.S.

Geometric modification of a skeleton of xerogels. Part 2.
Zhur. fiz. khim. 37 no.4:927-928 Ap '63. (MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

AKSHINSKAYA, N.V.; DAVYDOV, V.Ya.; ZHURAVLEV, L.T.; KERTOYZ, Dzheffri [Curthoys, Geoffrey]; KISELEV, A.V.; KUZNETSOV, B.V.; NIKITIN, Yu.S.; RYBINA, V.V.

Effect of hydrothermal treatment in an autoclave on the structure and adsorptive properties of silica gel. Koll. zhur. 26 no.5: 529-537 S-O '64. (MIRA 17:10)

1. Moskovskiy universitet, khimicheskiy fakul'tet i Institut fizicheskoy khimii AN SSSR.

AKSHINSKAYA, N.V.; KISELEV, A.V.; NIKITIN, Yu.S.

Geometric modification of the skeleton of xerogels. Part 3. Zhur. fiz. khim. 38 no.2:488-490 F '64. (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

L 35408-66 EWT(m)

ACC NR: AP6026839 SOURCE CODE: UR/0069/66/028/001/0003/0010

36
B

AUTHOR: Akshinskaya, N. V.; Davydov, V. Ya.; Kiselev, A. V.; Nikitin, Yu. S.

ORG: Chemical Faculty, Moscow University im. M. V. Lomonosov (Khimicheskiy fakul'tet Moskovskiy gosudarstvennyy universitet)

TITLE: Spectroscopic and adsorption study of geometrically modified wide-pore silicagels containing ultrapores

SOURCE: Kolloidnyy zhurnal, v. 28, no. 1, 1966, 3-10

TOPIC TAGS: silica gel, IR spectroscopy, adsorption, porosity, gas chromatography

ABSTRACT: Industrial, laboratory, and experimental silica gels subjected to hydrothermal treatment in an autoclave, were investigated by IR spectroscopy for adsorption of D_2O vapor (to determine the number of exchangeable OH groups) and by measuring adsorption. It was established that all of these silicagels had in addition to wide pores ultrapores that were accessible to water molecules but inaccessible to molecules of benzene, methyl alcohol, or krypton. The ultrapores could be eliminated by treatment at high temperatures. The degree to which they were closed by sintering depended on the conditions of treatment. While some of the ultrapores still remained after sintering in air at 750° or in vacuo at 800°, they were eliminated practically completely after treatment of the silicagels in a stream of water vapor at 750° or higher temperatures.

Card 1/2

UDC: 541.183.25

D916 2592

AKSHYER, VLADIMIR BERNARDOVICH

AKSHYER, Vladimir Bernardovich; OZERSKIY, V.A., redaktor; VORONIN, K.P., tekhnicheskiy redaktor

[Technical and economic indices of large thermoelectric power plants] Tekhniko-ekonomicheskie pokazateli teplovykh elektrostantsii bol'shoi moshchnosti. Moskva, Gos.energ.izd-vo, 1957. 63 p. (MLRA 10:9)
(Electric power plants)

AKSIANOV, I. G.

11

Study of monocrystalline n-TlSe and its rectifying properties.
G. A. Akhundov, G. B. Abdulayev, I. G. Aksianov.

(Not presented).]

Electro-physical properties of monocrystalline TlSe. G. A. Akhundov, G. B. Abdulayev, G. D. Guseynov, N. Kh. Aliyeva.

[Investigation of the electrical properties of germanium telluride. G. B. Abdulayev, V. B. Antonov, Ya. N. Nasirov.

On stucies of and some properties of monocrystalline GaTe and GaS. G. A. Akhundov, G. B. Abdulayev, N. A. Gasanova, F. I. Ismailov.

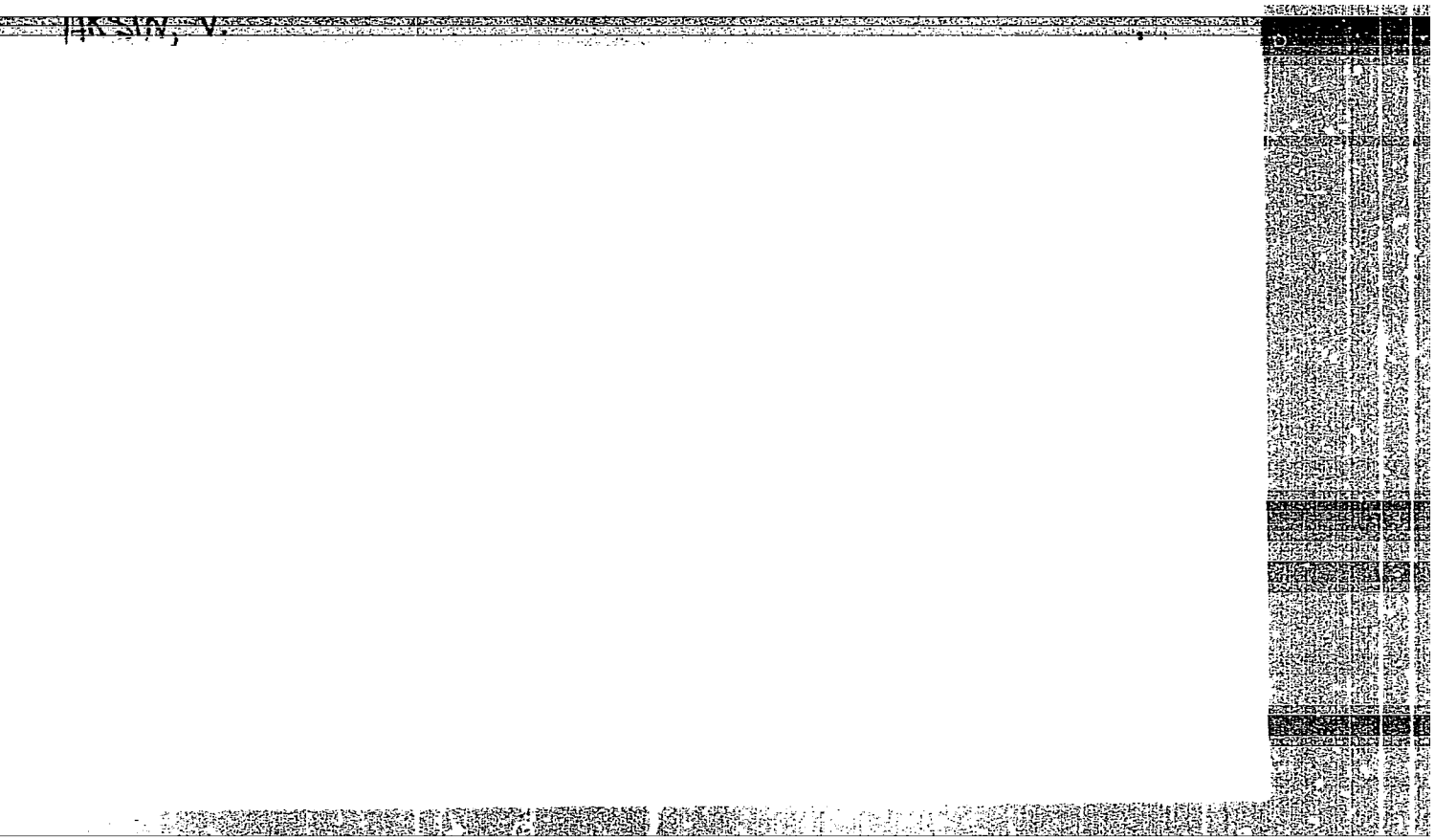
[Investigation of some physical properties of the monocrystalline compounds $CuSbS_2$ and $CuSbSe_2$. G. B. Abdulayev, R. Kh. Nani, Ya. N. Nasirov, T. G. Osmanov.

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

MOLODTSOV, V.; AKSILENKO, V.

Radioisotopes in international trade. Vnesh.torg. 41 no.5:48-51 '61. (MIRA 14:4)

(Radioisotopes)



14(5) YUG/4-59-2-1/37

AUTHOR: Aksin, Vladimir

TITLE: About Some Aspects of Petroleum Geology in North-East Yugoslavia (O nekim aspektima naftne geologije severo-istočnog dela Jugoslavije).

PERIODICAL: Nafta, 1959, Nr 2, pp 49-58 (YUG)

ABSTRACT: The author gives a detailed description of the geological structure of North-East Yugoslavia which, by its geological and geographical characteristics, belongs to the Pannonia sedimentary Basin. Details of various petroleum prospecting work in the Pannonia Basin and chemical analyses of natural gas and petroleum found in the North-East section of this Basin are also given. The small Hungarian petroleum fields in the Western and Eastern section are Budafapuszta, Lovaszi, Szolnok, Totkomlos, Bükkszek, Mezökeresztes, Demjen, Nagyudvar and Biharnagybajom. They yield 3% of the total yearly

Card 1/4

About Some Aspects of Petroleum Geology in North-East Yugoslavia

Hungarian petroleum production. The natural gas content of these fields is 70%. Extensive prospecting in the South-Eastern section of this Basin, i.e. in the Banat region of Yugoslavia, in 1949-1955 revealed 2 natural gas deposits, Velika Greda and Bečej, and 3 petroleum deposits, Jermenovci, Lokve and Boka. According to their structural composition these deposits are divided into 2 groups, a) the "Buried Hills" structure group (Velika Greda, Jermenovci, Lokve, Kovin, etc) and b) the "Buried Hills" with faults group (Boka, Samoš, Padina, Orlovat, etc.). At Kovin only small traces of petroleum were found and small quantities of gas with salt water under high pressure at Samoš and Padina. Natural gas field Velika Greda, near the Rumanian border, was discovered in 1949 and consists of 6 wells. The length of the field is 2 km, width 1 km and the actual thickness of individual layers is 9 m. The

About Some Aspects of Petroleum Geology in North-East Yugoslavia

the neighboring villages. The petroleum production in Jermenovci started in 1956 and the 1958 total production amounted to 18,125 cubic meter. The high paraffin content and solidifying point cause considerable difficulties with the transport of this petroleum which has to be heated from the time of eruption till it reaches the collecting points. For this purpose the field has electrical heating installations and steam pipes in the pipeline. There are 4 tables, 7 maps, 1 schematic diagram, and 4 references of which 3 are Yugoslav and 1 Hungarian.

ASSOCIATION: Naftagas, Novi Sad.

Card 4/4

Y/004/61/000/001/001/002
D257/D304

AUTHOR: Aksin, Vladimir, Engineer

TITLE: Petroleum industry of the USSR

PERIODICAL: Nafta, no. 1, 1961, 9-21

TEXT: The article, which is based mainly on Soviet data, represents a review of Soviet petroleum industry development. The purpose of the article is to provide Yugoslav readers with basic knowledge on the subject since there are no such reviews available in Yugoslavia. The numerical data in the article refer to 1958 and 1959. Certain data show planned figures for 1960. In 1959 the USSR produced 129,000,000 tons of crude oil and 39,000,000 tons of gas, 28,317,000 tons of which were were natural gas. The distribution of energy sources in the USSR in 1958 amounted to 60% of coal, 31% of petroleum, and 7% of wood, peat, etc; these figures should change by 1965 to 42% of coal, 51% of petroleum and 7% of wood, etc. The past, present and planned energetic balance of the USSR for the period 1958 - 1965 is given in tabulated form. The main oil and gas fields are shown in map form. The ratio of turbo-drilling in the USSR for the 1940-

Card 1/2

AKSIN, Vladimir, inz.

Rumanian petroleum industries. Nafta Jug 13 no.4/5:78-86 Ap-My '62.

1. Naftgas, Novi Sad.

AKSIN, Vladimir, inz.

Oil conferences in Hungary. Nafta Jug 14 no.4:113-116 Ap '63.

1. Naftgas, Novi Sad.

AKSIN, Vladimir; FILJAK, Radovan

Development and results of oil and gas prospecting in Yugoslavia. Nafta Jug 14 no.4:117-123 Ap '63.

1. Naftagas, Novi Sad (for Aksin). 2. Naftaplin, Zagreb (for Filjak).

AVERICHEV, Yevgeniy Petrovich; AKSINEVICH, Vladimir Iosifovich; RASKIN, Mikhail Nikolayevich; KUZNETSOVA, L.G., red.

[Reconditioning plunger pairs; practice of the Zaraysk Machinery Plant] Vosstanovlenie plunzhernykh par; iz opyta raboty Zaraiskogo mekhanicheskogo zavoda. Moskva, Biuro tekhn. informatsii, 1964. 31 p. (MIRA 18:5)

BELYAYEV, B.Ye.; AKSINOVICH, Ye.V.

Training specialists for mass professions in road construction.
Avt.dor. 25 no.8:5 Ag '62. (MIRA 16:2)
(Road construction workers)

Aksinovich, Yefim Vasil'yevich

AKSINOVICH, Yefim Vasil'yevich; CHVANOV, V.G., redaktor; GALAKTIONOVA, Ye.N., tekhnicheskiy redaktor

[Using gravelly asphalt concrete] Primeneneie graviinogo asfal'to-betona. Moskva, Nauchno-tekhn.izd-vo avtotransportnoi lit-ry, 1955. 61 p. (MLRA 9:2)

(Asphalt concrete)

BELYAYEV, B.Ye.; AKSINOVICH, Ye.V., inzh.

Work better in the new year. Avt. dor. 25 no.2:8-9 F '62.
(MIRA 15:2)

1. Glavnyy inzh. Upravleniya stroitel'stva No.17 (for Belyayev).
(Road construction workers)

AKSIONOV, I.

Prospects of the application of cybernetics in the railroad transportation of the Soviet Union. p.285.

KOZLEKEDESTUDOMANYI SZEMLE. Budapest, Hungary. Vol. 9, no. 7, July 1959.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

AKSMAN, N.M.; VILENSKIY, L.I.; GORBUNOV, N.G.; GUBSKIY, V.N.; GURVICH, M.D.; LATYSHEV, Yu.M.; LEVONTIN, L.I.; LIVSHITS, T.G.; LOGINOVA, M.K.; LUR'YE, D.A.; LYANDRES, G.D.; MIROSHNICHENKO, G.K.; MOGILEVSKIY, B.Ya.; NEMKOVSKIY, M.I.; ORLEANSKIY, Ya.P.; SAVITSKIY, A.N.; SIMMA, S.F.; SURKOV, G.Z.; SHMYGUL', B.P.; SHUBIN, V.P.; DONSKOY, Ye.Ye., red.izd-va; KAL'NITSKIY, R.Ya., red.izd-va; ZAMAKHOVSKIY, L.S., tekhn.red.

[Mechanization and automation in the machinery industry] Mekhanizatsiia i avtomatizatsiia v stankostroenii. Khar'kov, Khar'kovskoe obl.izd-vo, 1958. 119 p. (MIRA 13:2)

1. Kharkov. Institut "Giprostanok." 2. Direktor instituta "Giprostanok" (for Orleanskiy).
(Machinery industry--Technological innovations)
(Automation)

AKSMAN, N.M.

Ventilation of inert shakeout tables. Lit.proizv. no.2:44 F '60. (MIRA 13:5)
(Foundries--Equipment and supplies)

L 11166-67

ACC NR: AR6013778 SOURCE CODE: UR/0044/65/000/010/V030/V031

AUTHOR: Aksomaytis, A. 23

TITLE: Statistical estimate of information content in a discrete memoryless channel

SOURCE: Ref. zh. Matematika, Abs. 10V206

REFE SOURCE: Lit. matem sb., v. 3, no. 1, 1963, 5-8

TOPIC TAGS: information theory, ~~memoryless~~ discrete channel, ~~channel information~~ random process, computer memory

ABSTRACT: Let: $I(\xi, \eta)=\sum_{i=1}^{k}\sum_{j=1}^{l} p(i, j)\log\frac{p(i, j)}{p(i, \cdot)p(\cdot, j)}$ (1)

be the information quantity of a discrete random variable ξ relative to a discrete random variable η; denote by $\hat{I}_N$ the estimate for I, obtainable according to (1) if the probabilities p(i,j), p(i,·) and p(·,j) are replaced by the corresponding frequencies, obtained by the sorting of a volume N. It is proven that $\hat{I}_N$ appears as the assymptotically shifted normal estimate for $I(\xi,\eta)$; the main members of the assymptotic (on N), $M\hat{I}_N$ and $D\hat{I}_N$ are written down. This theorem generalizes a result of G.P. Basharin on the statistical estimate of entropy (Ref. zh. Mat. 1961, 10B80). [Translation of abstract].

SUB CODE: 09/2

Card 1/1 mlz

UDC: 51:621.391

AKSOY, M.

PHASE I BOOK EXPLOITATION SOV/4548

Akademiya nauk SSSR. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali

Primeneniye vakuuma v metallurgii (Use of Vacuum in Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 334 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: S.G. Markovich.

PURPOSE: This collection of articles is intended for technical personnel interested in recent studies and developments of vacuum steelmaking practice and equipment.

COVERAGE: The book contains information on steel melting in vacuum induction furnaces, and vacuum arc furnaces, reduction processes in vacuum, and degassing of steel and alloys. The functioning of apparatus and equipment, especially vacuum furnaces and vacuum booster pumps is also analyzed. Personalities are mentioned in connection with some of the articles and will appear in the Table of Contents. Three articles have been translated from English. Some of the

Card 1/9

POLAND/Analytical Chemistry - Analysis of Inorganic Substances G-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4820

Author : Akst Marian
Title : Analysis of Zirconium Sand

Orig Pub : Przegl. geol., 1956, No 4, 172-173

Abstract : A 1 g sample of ground zirconium sand is mixed with 10 g of fused NaOH, heated 5 minutes at ~600°, melt dissolved in 50 ml warm water, to the solution are added 100 ml 20% H_2SO_4 and the mixture is evaporated until dense fumes are evolved. Cooled, added 20 ml water, heated to 100°, filtered off SiO_2 and precipitate washed with 1% solution H_2SO_4. SiO_2 after weighing treated with HF and H_2SO_4, residue dissolved in 5 ml concentrated H_2SO_4 and solution added to the filtrate. Filtrate diluted to 500 ml. To 100 ml of solution added 5 ml 3% H_2O_2, 300 ml hot water, heated to a boil, Zr precipitated

Card 1/2

AKST, M.

Poland is a rich country in mineral raw materials for the chemical industry. p. 7.

PRZEGLAD TECHNICZNY. (Naczelna Organizacja Techniczna) Warszawa, Poland.
Vol. 80, no. 22, June 1959.

Monthly List of East European Accessions (EEAI) LC. Vol. 8, no. 7, July 1959.

Uncl.

AKHUNDOV, G.A.; AKSYANOV, I.G.

Rectifying properties of TlSe single crystals. Izv. AN Azerb. SSR. Ser. fiz.-tekh. i mat. nauk no.1:75-77 '64. (MIRA 17:9)

AKHUNDOV, G.A.; AKSYANOV, I.G.

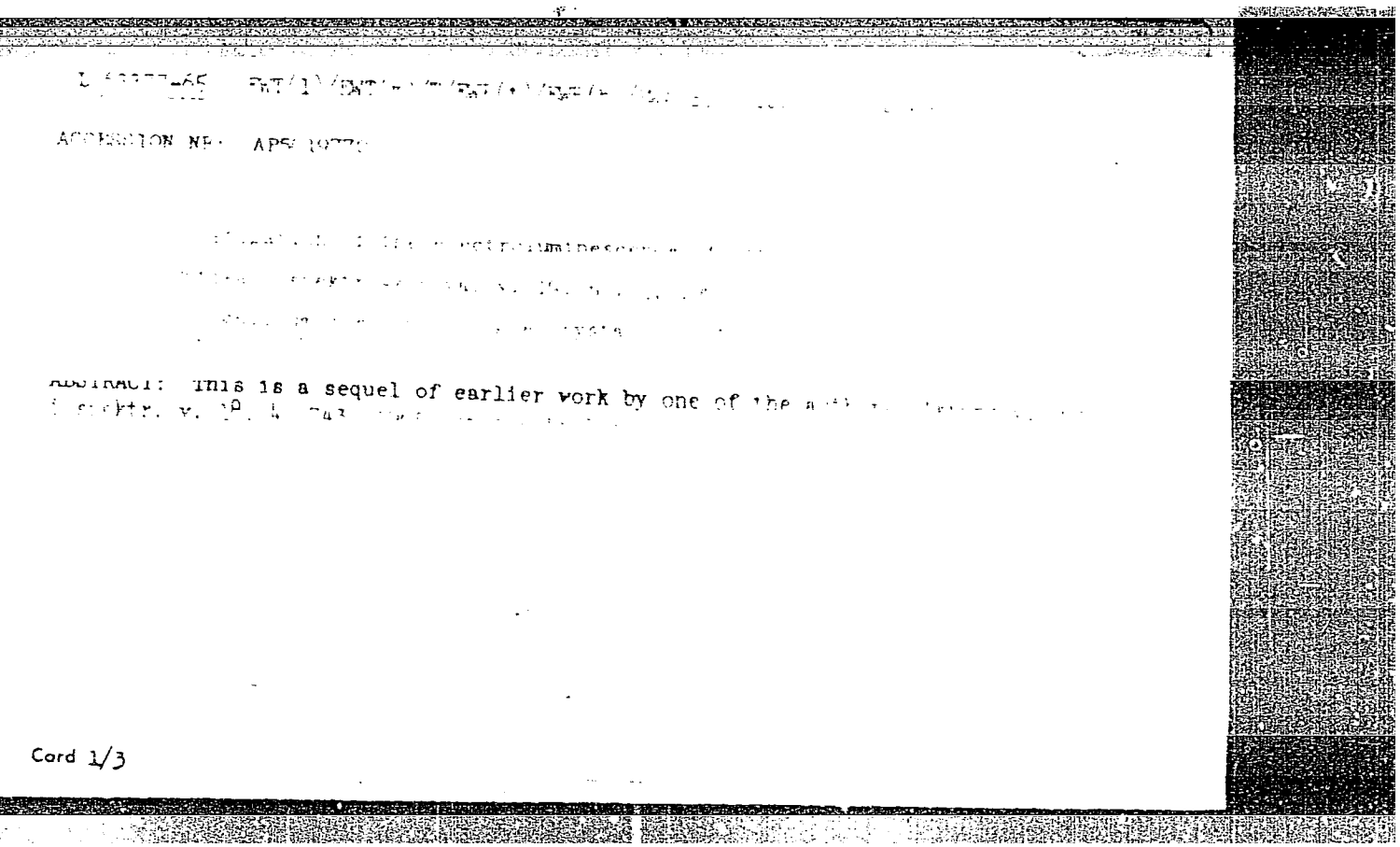
Electroluminescence of GaSe single crystals. Opt. i spektr. 19 no.2:302-303 Ag '65. (MIRA 18:8)

AKSYANOVA, R. A.

Treatment of suppurative pulmonary diseases with biomycin.
Sov. med. 20 no.4:8-13 Ap '56. (MLRA 9:8)

1. Iz gospital'noy terapevticheskoy kliniki (direktor professor P. Ye. Lukomskiy) II Moskovskogo meditsinskogo instituta imeni I. V. Stalina.

(LUNGS, diseases,
suppurative, ther., biomycin (Rus))
(ANTIBIOTICS, therapeutic use,
lung suppurative dis. (Rus))



ACCESSION NR: AP5

ABSTRACT: This is a sequel of earlier work by one of the

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L 63377-65

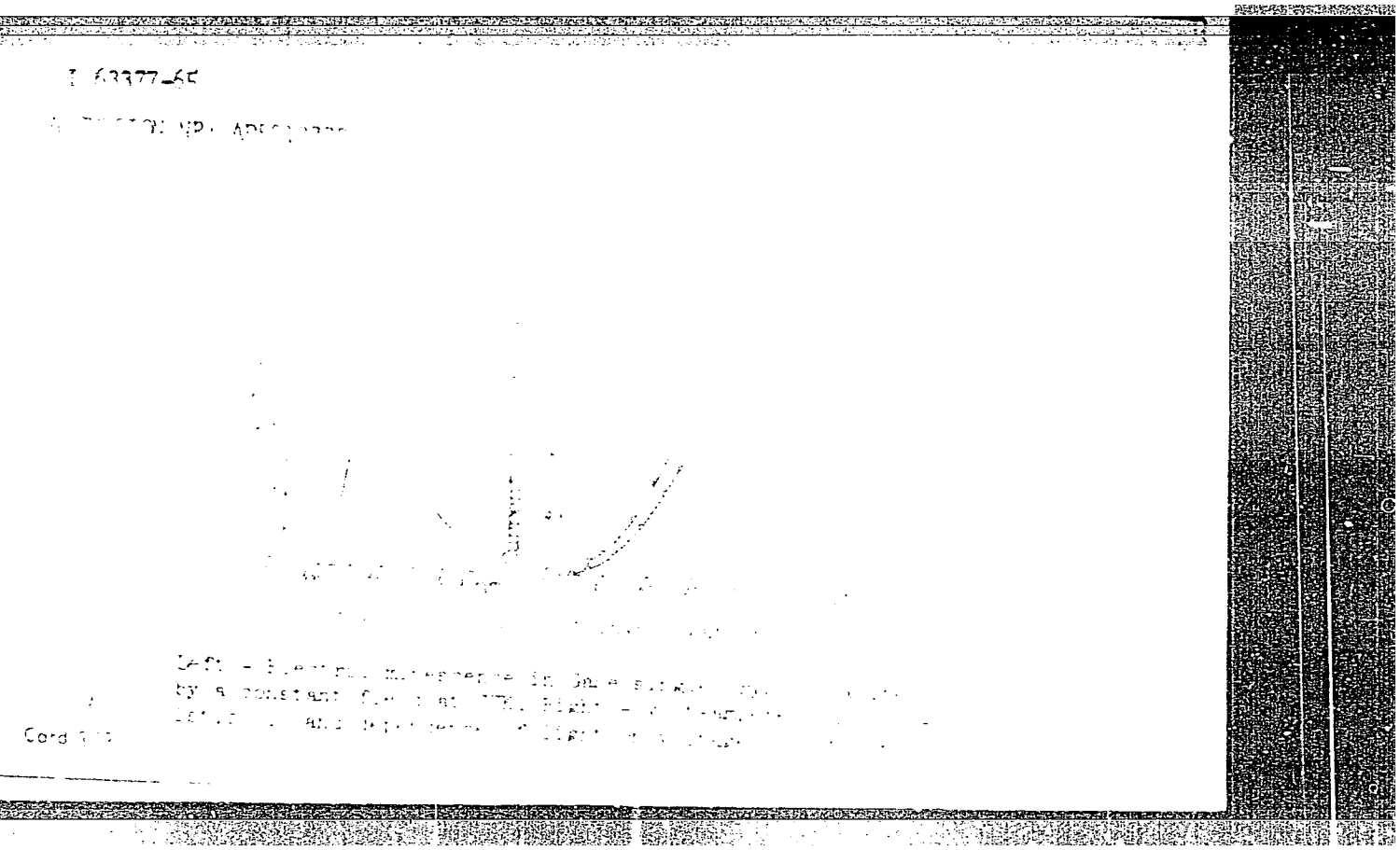
ACCESSION NR: AP5019770

of GaSe. It is assumed that radiative recombination between the conduction band and the levels near the valence band take place. "The authors thank [illegible] for continuous interest and valuable advice."

SUBMITTED: 05Feb65 ENCL: 01

SUB CODE: OC OTHER: 002

Card 2/3



L 07798-67 EWT(l)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6033909 SOURCE CODE: GE/0030/66/017/002/K225/K227

53
13

AUTHOR: Akhundov, G. A.; Aksyanov, I. G.; Bagirov, A. G.

ORG: Institute of Physics, Academy of Sciences of the Azerbaidzhan SSR, Baku

TITLE: Electroluminescence of GaSe single crystals excited by square pulses

SOURCE: Physica status solidi, v. 17, no. 2, 1966, K225-K227

TOPIC TAGS: electroluminescence, gallium compound, selenide

ABSTRACT: Using techniques described in an earlier paper (Optika i spektroskopiya, v. 21, 120, 1966), the authors investigated the electroluminescence of GaSe single crystals pumped by a square-wave oscillator. Plate-shaped samples were cleaved from a large monocrystalline GaSe ingot. The dependence of brightness on pulse amplitude, repetition frequency, and pulse width was measured at 77K. Experimental data show that the brightness increases proportionally to the pulse width. At short pulse widths and sufficiently large values of the repetition frequency the number of injected current carriers is lower and, therefore, the number of radiative recombinations decreases. At longer pulse widths the number of injected current carriers increases and, therefore, the brightness increases. The frequency dependence of brightness at pulsed excitation differs from that at sinusoidal excitation. The emission spectra at pulsed and dc and sinusoidal excitation are identical. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 07Sep66/ ORIG REF: 003/ ATD PRESS: 5101

Card 1/1 LS

L 00878-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6025968 SOURCE CODE: UR/0051/66/021/001/0120/0121

AUTHOR: Akhundov, G. A.; Aksyanov, I. G.; Bagirov, A. G.

ORG: none

TITLE: Electroluminescence in GaSe single crystals

SOURCE: Optika i spektroskopiya, v. 21, no. 1, 1966, 120-121

TOPIC TAGS: electroluminescence, forbidden zone, emission spectrum

ABSTRACT: Data are given on the spectrum, the volt-ampere characteristics of In-GaSe contacts, and the brightness and frequency dependence of electroluminescence at 77°K. Experiments were made on single crystal plates of *p*-GaSe having charge carrier concentrations of the order of 10^{-15} cm^{-3}. With a field strength of $4 \cdot 10^3$ v/cm, the entire crystal luminesces. Monochromator measurements show that the emission spectrum extends from 0.585 to 1 μ. One peak was found between 0.61 and 0.65 μ; another appears at 0.875. The emission spectrum is cut off rather sharply at the short wave end, at a point corresponding to the forbidden zone of GaSe. Sometimes a shortwave peak was seen at 0.592 μ. Except when associated with interzone recombination, this peak is due to electrons passing from the conductivity zone to centers 0.08 to 0.2 ev from the ceiling of the valence zone. The dependence of brightness on both alternating and direct current is linear, and rises with increasing voltage. The frequency dependence

UDC: 535.376 : 548.0

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L 08878-67

ACC NR: AP6025968

of brightness is plotted for various voltages. At lower voltages, the brightness at first increases with frequency then remains practically constant. At higher voltages the brightness tends to fall off. The authors thank G. V. Abdullayev for his interest in the work. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 27Dec65/ ORIG REF: 002

Card 2/2

AKSYANTSEV, M. A.

"On some features ofperipheral circulation of hypertonics with disturbances of brain blood circulation," Collection I, M. A. Aksyantsov. "Penetrability and capillarity," Sbornik nauch, rabot, posvyashch. 70-letiyu prof. Seppa, Moscow, 1948, p. 126-36

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

T-10

USSR/Human and Animal Physiology - Nervous System. Blood Supply.

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84602

Author : Aksyantsev, M.A.

Inst : First Moscow Institute of Medicine.

Title : Some Characteristics of the Brain's Blood Circulation Disturbances in Hypertonic Diseases.

Orig Pub : Tr. 1-go Mosk. med. in-ta, 1956, 1, 38-47

Abstract : The theory is substantiated here that in some hypertonia patients the first symptoms or the aggravation of already existing cerebrovascular disturbances are directly pathogenically correlated to traumatic impairments of carotidal sinuses and to cervical sympathetic growths. Among other causes of the disease are also inflammatory processes in the neck area, sclerotic modifications of large vessels

Card 1/2

AKSYANTSEV, M.A., KOLOMOYTSEVA, I.P. (Moskva)

Clinical picture and treatment of diseases of the subthalamic region.
Klin.med. 36 no.9:87-93 S'58 (MIRA 11:10)

1. Iz kliniki nervnykh bolezney (zav. kafedroy - deystvitel'nyy chlen AMN SSSR prof. Ye.K. Sepp [deceased]) I Moskovskogo ordena Lenina meditsinskogo instituta.
(DIENCEPHALON, dis.
subthalamus, clin., picture & ther. (Rus))

AKSYANTSEV, M.A.; MEL'NIKOV, S.A.

"Nervous diseases" by V.V.Mikheev. Reviewed by M.A.Aksiantsev, S.A.Mel'nikov. Zhur.nevr. i psikh. 59 no.4:505-506 '59. (MIRA 12:6)

(NERVOUS SYSTEM--DISEASES) (MIKHEEV, V.V.)

AKSYANTSEV, M.A.; VLASOVA, P.I.

Some data on the functional state of the liver in multiple sclerosis. Zhur. nevr. i psikh 60 no.11:1464-1466 '60. (MIRA 14:5)

1) Klinika nervnykh bolezney (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent S.A.Mel'nikov) Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.
(MULTIPLE SCLEROSIS) (LIVER)

AKSYANTSEV, M.A.

Role of blood viscosity in the pathogenesis of transitory disorders in the blood circulation of the brain. Zhur. nevr. i psikh. 61 no.5:674-676 '61. (MIRA 14:7)

1. Klinika nervnykh bolezney (ispolnyayushchiy obyazannosti zaveduyushchego kafedroy - dotsent S.A.Mel'nikov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.
(BLOOD) (HYPERTENSION) (BRAIN—DISEASES)

AKSYANTSEV, M.A.; KOLOMOYTSEVA, I.P.

Aminazine in neurological practice. Trudy 1-go MMI 24:287-296'63
(MIRA 17:3)

AKSYANTSEV, M.A.; AREF'YEVA, V.N.; SHREYBERG, G.L.

Some biochemical and hormonal changes in multiple sclerosis. Zhur. nevr. i psikh. 65 no.1:51-55 '65. (MIRA 18:2)

1. Klinika nervnykh bolezney I Moskovskogo ordena Lenina meditsinskogo instituta im. I.M. Sechenova (direktor - prof. V.V. Mikheyev) i laboratoriya neyro-gumoral'noy regulyatsii (zaveduyushchiy - prof. N.I. Grashchenkov) AN SSSR.